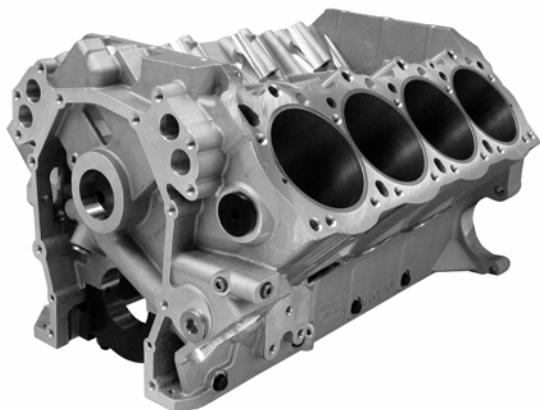




INSTALLATION INSTRUCTIONS RB HEMI ENGINE BLOCK

PART NUMBERS P5153942, P5153943, P5153862, P5153864, P5155072



Engine Block Components

- (1) Engine Block Assembly (with main caps and studs)
- (1) Block Plug Kit (covers all applications)
- (1) Camshaft Bearing Kit (loose)
- (2) 0.040" Oil Gallery Restrictors (installed in deck)
- (1) 1/2" Oil Pickup Tube Adapter (with fasteners)
- (1) Rear Oil Seal Retainer (with fasteners)
- (4) AN10 Valley Plugs (already installed if required)

Part Number	Material	Bore Bore	Bore Hone	Cam Height	Lifter Bores
P5153942	gray iron	4.24	no	std	finished
P5153943	gray iron	4.24	no	std	unmachined
P5155072	gray iron	4.25	yes	std	finished
P5153862	gray iron	4.50	yes	std	finished
P5153864	aluminum	4.50	yes	std	sleeved

Please check your block's part number against the features listed in the above chart before performing any machining or assembly prep.

READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION

SPECIAL NOTICE: This block is made from a unique casting that is not the same as prior blocks. This casting may

not have enough stock to allow modifications that have been common on prior blocks (drilling oil galleries, tubing the block, modifications for tappet bushings, lifter angle modifications, lifter location modifications, etc). Mopar is not responsible for any oil or water passage break through that may occur due to modification of the block.

Motor Mounts:

Stock Hemi motor mount bosses are provided.

•Motor Mount Bracket	P4510287
•Left Motor Mount	P4510288
•Right Motor Mount	P4510289

Cylinder Bores:

Blocks that are listed without hone must be finish honed before use. All blocks have siamesed water jackets that accommodate a maximum overbore of 4.600". Honing with a torque plate is recommended.

•Hemi Block Hone Plate	P5249630
------------------------	----------

Main Caps + Main Bearings:

#1, #2, #3 and #4 main caps are cross bolted. Blocks are machined for stock main bearings. Install main bearing caps with bearing tangs facing the driver's side of the engine. Seat the caps in the block and torque the vertical bolts to 100 ft-lbs first to maintain cap alignment and then torque the cross bolts to 45 ft-lbs.

Bell Housing Pattern:

Part numbers P5153942, P5153943, P5153862 and P5155072 have the stock bell housing bolt pattern on the rear face of block. Part number P5153864 has a dual bell housing pattern that accommodates use of stock



INSTALLATION INSTRUCTIONS RB HEMI ENGINE BLOCK

PART NUMBERS P5153942, P5153943, P5153862, P5153864, P5155072

components as well as many popular aftermarket components.

Deck Height:

Blocks are machined to a stock RB deck height of 10.725". At this height the deck is .600" thick.

Water Pump:

Stock water pump components can be used with these blocks. Torque the water pump to housing bolts to 30 ft-lbs and torque the housing to block bolts to 30 ft-lbs.

- Al Water Pump Housing P4286900
- Aluminum Water Pump P5007643AB
- Water Pump Installation Kit P5007449

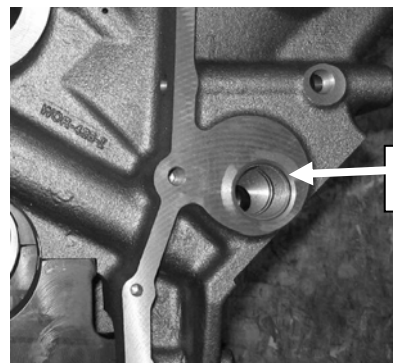
Oil Pan + Pickup:

Blocks come with an adapter that accommodates the use of stock oil pickup tubes. Stock oil pans will fit as well. Torque oil pan attaching screws to 200 in-lbs.

- Center Sump, 6 qt, Pan P4529884
- Center Sump, 6 qt, Pickup P4529567
- Center Sump, 8 qt, Pan P5007816
- Center Sump, 8 qt, Pickup P5007818
- Oil Pan Bolt Kit P4120613

External Oil Pickup Passage

Your block comes prepped to run an externally routed oil pickup tube if you lack proper clearance in the crankcase. An AN-12 boss (1 1/16" – 12 tpi) is machined on the front face of the block that connects directly to the inlet side of the oil pump. An AN-12 fitting can be installed here connecting externally to an oil pickup tube installed in your oil pan. You will need to plug the oil pickup tube adapter inside the crankcase with a 1/2" pipe plug when making this modification.



External Oil Pickup Passage

Oiling System:

The oil feeds from the deck surfaces that connect to the cylinder heads have .040" restrictions installed to control the flow of oil to the valve train. **These should not be removed.** Stock oil pumps will bolt directly to these blocks. Torque oil pump attaching bolts to 30 ft-lbs.

- Oil Pump Assembly P4286590

Distributor + Intermediate Shaft:

Blocks are machined to accept stock distributors and related drive components. A bronze intermediate shaft bushing has already been installed in each block and is finished to size.

- Distributor Drive Bushing P1737725
- Electronic Distributor (vac adv) P3690432
- Distributor Hold Down Clamp P4349279

Camshaft and Front Drive:

Blocks are prepped for stock cam bearings although the cam bearing bores can be machined oversize to allow use of 60mm roller bearings for racing applications. When installing journal bearings be sure to line up the oil hole in the bearing shell with the oil feed hole in the block. All stock cam drive components can be used with the standard cam height packages. Raised cam blocks require a custom drive system. Torque front cover bolts to 15-18 ft-lbs.

- Timing Chain + Sprockets P4452815
- Chrome Front Cover P4349816
- Chrome Cover Fastener Kit P4452795



INSTALLATION INSTRUCTIONS RB HEMI ENGINE BLOCK

PART NUMBERS P5153942, P5153943, P5153862, P5153864, P5155072

Lifter Bore Angle and Diameter:

Blocks listed with "finished" lifter bores are machined to stock 0.905" diameter and 45° angle. Aftermarket lifters vary so check your part's clearance. Clearance for typical roller tappet tie bars has been provided. Please check your specific application. Blocks with "sleeved" tappet bosses are semi-finished and will need to be honed to final size. Sleeved tappet bosses are also at 45°.

Rear Seal Retainer and Seal

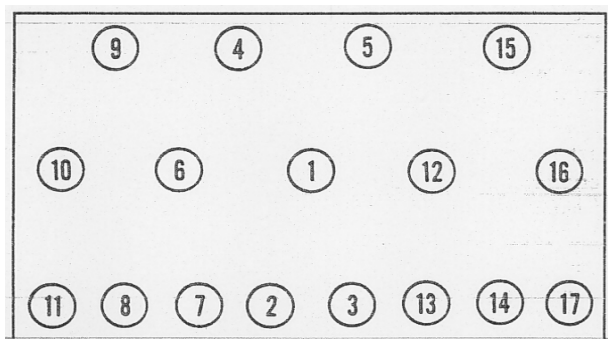
Engine blocks come with the rear seal retainer installed. The seal needed for this application is listed below. Retorque the seal cap retaining bolts to 30 ft-lbs.

- Rear Seal Package P4271961

Cylinder Heads:

Stock cast iron and aluminum cylinder head assemblies will bolt directly on to these blocks. Head bolt holes are blind tapped and do not extend into the water jacket. It is the builder's responsibility to determine that mounting fasteners have the proper engagement to prevent stripping threads. **A longer than stock stud is needed for the valley attachment with this block.** Torque head bolts and nuts initially to 50 ft-lbs in sequence shown. Then repeat tightening to 65-70 ft-lbs for aluminum heads or 70-75 ft-lbs for cast iron heads.

- Aluminum Cylinder Head Assy. P4876857
- Cast Iron Cylinder Head Assy. P4876855
- Cylinder Head Bolt Kit P4529978



Cylinder Head Bolt Tightening Sequence

Fuel Pump and Drive Pushrod:

Stock fuel pump and drive pushrod components can be used with these blocks. A block-off plate is available if a mechanical fuel pump is not required for your application. Torque fuel pump or block-off plate to 30 ft-lbs.

- Fuel Pump Assembly P4007039AB
- Fuel Pump Pushrod Kit P5249569
- Chrome Block-Off Plate P5007546

Other Recommended Components:

- Crankshaft (4.15" stroke) P5007250
- Crankshaft (3.75" stroke) P5007251
- Gasket Kit P3412083
- Vibration Damper P5249699
- Chrome Valve Cover Set P4529338
- Valve Cover Gasket Set P4120353
- Dip Stick and Tube P4510284
- Crate Motor Installation Manual P5007521

For technical assistance regarding the HEMI® Engine Block, please contact the Mopar Performance Tech Line Monday-Friday, 7:00am - 3:00pm EST at 1(888) 528-HEMI or 1(888) 528-4364.

NO PARTS WARRANTY – "AS IS"

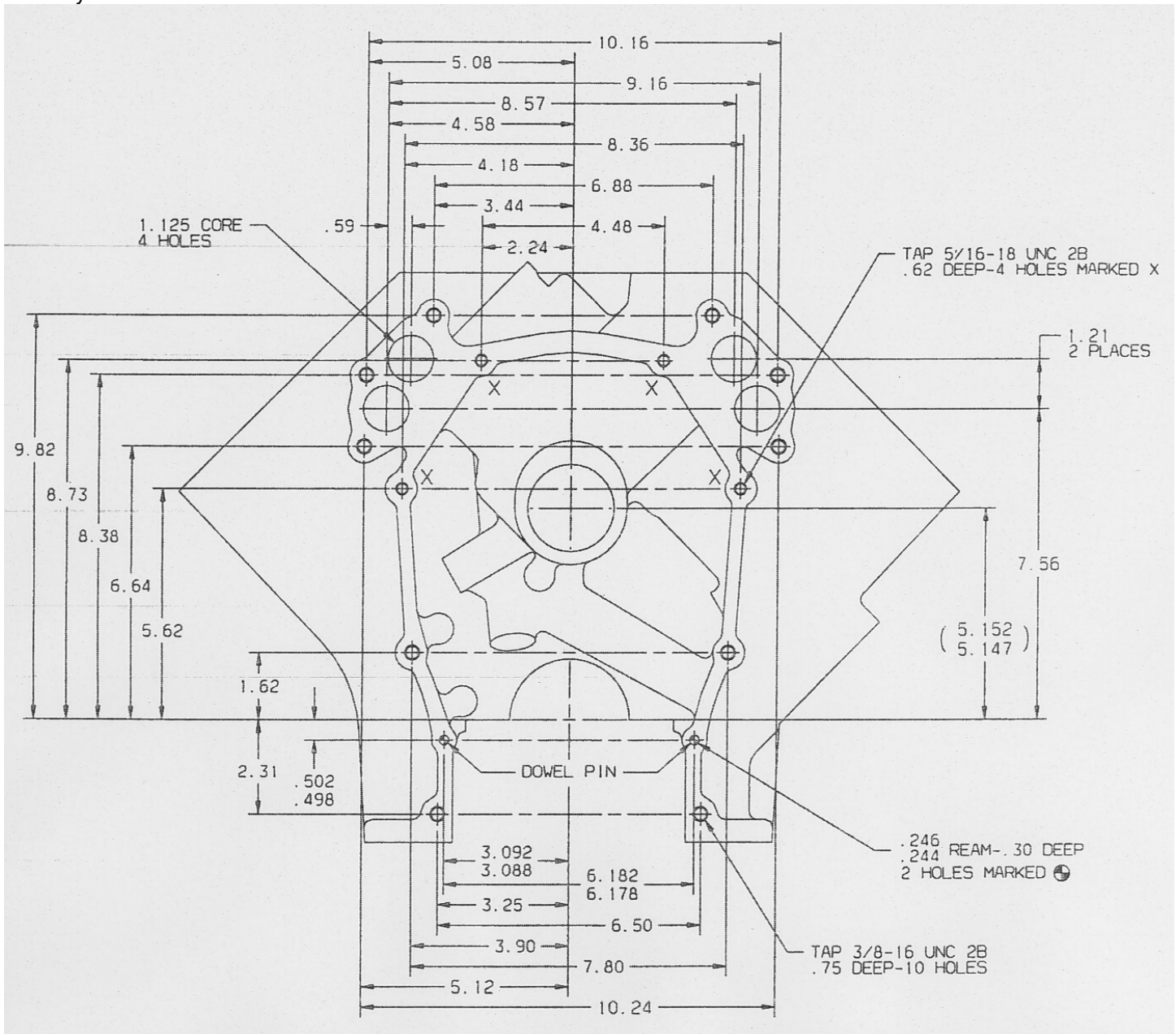
Mopar Performance parts beginning with a "P" prefix are sold "as is" unless otherwise noted. This means that parts sold by Mopar Performance carry no warranty whatsoever. **Implied warranties, such as warranties of merchantability, are excluded.** (An implied warranty of merchantability means that the part is reasonably fit for the general purpose for which it was sold). The entire risk as to quality and performance of such parts is with the buyer. Should such parts prove defective following their purchase, the buyer and not the manufacturer, distributor or retailer, assumes the entire cost of all necessary servicing or repair. Chrysler, Dodge and Jeep® vehicle and parts warranties are voided if the vehicle or parts are used for competition. The addition of performance parts does not by itself void a vehicle's warranty. However, added performance parts (parts not originally supplied on the vehicle from the factory) are not covered by the vehicle's warranty, and any failure that



INSTALLATION INSTRUCTIONS RB HEMI ENGINE BLOCK

PART NUMBERS P5153942, P5153943, P5153862, P5153864, P5155072

they may cause is also not covered by the vehicle's warranty.



Front Face of Block
(dimensions can be used to fabricate attaching plates if required by application)